

**IN THE SPECIFICATION:**

Add a new heading and paragraph at page 1, after the title insert new section headings and subheadings and amend the specification as follows:

**CROSS REFERENCE TO RELATED APPLICATIONS**

This application is a national phase application based on PCT/IT2004/000591, filed October 27, 2004, the content of which is incorporated herein by reference and claims priority of PCT/IT2003/000707, filed October 31, 2003, the content of which is incorporated herein by reference.

**BACKGROUND OF THE INVENTION**

**Field of the Invention**

Page 1, before line 16, add the following new subheading:

**Description of the Related Art**

Page 5, before line 7, add the following new section heading:

**SUMMARY OF THE INVENTION**

Page 6, lines 21-23, delete the paragraph starting with "It is therefore an object of the invention," in its entirety and substitute a new paragraph therefor as follows:

In accordance with the present invention, there is provided an expandable bladder for tyre manufacturing apparatuses, comprising:

at least one first layer of a first elastomer material; and

a second layer of a second elastomer material different from said first elastomer material;

wherein said second layer is at a position radially external to said first layer;

wherein said first and second layers have an undulated interface profile; and

wherein said interface profile defines mechanical-engagement elements between the first and second elastomer materials.

Page 6, lines 25-27, delete the paragraph starting with "It is a further object of the invention," in its entirety and substitute a new paragraph therefor as follows:

There is also provided in accordance with the present invention a method of manufacturing an expandable bladder for tyre manufacturing apparatuses, comprising the steps of:

preparing at least one first elongated element including a first raw elastomer material and at least one second elongated element including a second raw elastomer material having a different composition from that of the first elastomer material;

laying said first elongated element on a forming support, in the form of coils wound up around a geometric axis of said forming support so as to form a first layer of said first elastomer material;

laying said second elongated element on the forming support, in the form of coils wound up around the geometric axis of said forming support so as to form a second layer of said second elastomer material at a radially external position to said first layer;

said first and second layers having an undulated interface profile, wherein said interface profile defines mechanical-engagement elements between the first and second elastomer materials; and

curing said bladder.

Page 6, lines 29-31, delete the paragraph starting with "The inventions also proposes," in its entirety and substitute the new paragraphs therefor as follows:

In another aspect of the present invention, there is provided a process for manufacturing tyres comprising the steps of:

forming on a drum, a carcass structure comprising at least one carcass ply having opposite end flaps in engagement with respective annular reinforcing structures; inflating at least one expandable bladder in the vicinity of each of said annular reinforcing structures; shaping the carcass structure into a toroidal conformation to apply an annular belt structure and a tread band to the carcass ply; and curing the tyre; wherein each of said expandable bladders comprises: at least one first layer of a first elastomer material and one second layer of a second elastomer material different from said first elastomer material; wherein said second layer is at a radially external position to said first layer; wherein said first and second layers have an undulated interface profile; and wherein said interface profile defines mechanical-engagement elements between the first and second elastomer materials.

In accordance with the present invention, there is also provided a manufacturing apparatus for tyres of vehicle wheels, comprising:

devices designed to form a carcass structure on a drum, which carcass structure comprises at least one carcass ply having opposite end flaps in engagement with respective annular reinforcing structures;

at least one pair of expandable bladders operatively associated with said drum, each of said expandable bladders being inflatable in the vicinity of one of said annular reinforcing structures;

devices for positioning a belt structure around said carcass structure; and devices to shape the carcass structure into a toroidal conformation for applying an annular belt structure to the carcass ply;

wherein each of said expandable bladders comprises:

at least one first layer of a first elastomer material and one second layer of a second elastomer material different from said first elastomer material;

wherein said second layer is at a position radially external to said first layer;

wherein said first and second layers have an undulated interface profile; and

wherein said interface profile defines mechanical-engagement elements between the first and second elastomer materials.

Page 7, before line 6, add the following new section heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Page 8, before line 11, add the following new section heading:

DETAILED DESCRIPTION OF THE INVENTION